

difluoromethane by the reaction of dichloromethane with hydrogen fluoride in the presence of a catalyst in a liquid phase economically and safely, wherein the reaction is conducted by using antimony pentafluoride or a mixt. thereof with antimony trifluoride as the catalyst at a temp. of 80-150.degree.C under a pressure of 8-80 kg/cm<sup>2</sup>. (7)

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 1998 ACS

ACCESSION NUMBER: 1996:194711 CAPLUS

DOCUMENT NUMBER: 124:231839

TITLE: Process for producing difluoromethane

INVENTOR(S): **Tsuda, Takehide**; Yamada, Yasufu;

Shibamura, Takashi

PATENT ASSIGNEE(S): Daikin Industries Ltd., Japan

SOURCE: PCT Int. Appl., 15 pp.

CODEN: PIXXD2

NUMBER	DATE
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PATENT INFORMATION: WO 9535271 A1 951228

DESIGNATED STATES: W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA  
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG

APPLICATION INFORMATION: WO 95-JP1122 950607

PRIORITY APPLN. INFO.: JP 94-137275 940620

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

AB This patent application describes a process for producing difluoromethane by fluorinating dichloromethane with hydrogen fluoride in a liq. phase in the presence of a fluorination catalyst under such conditions that the reaction is conducted under an abs. pressure of 1-10 kg/cm<sup>2</sup> at a temp. in the range of 50 to 150.degree.C and the selected reaction temp. is a temp. at which hydrogen fluoride is not liquefied under the above-specified pressure. The above conditions serve to attain an extremely high conversion of dichloromethane and hydrogen fluoride and to minimize the amts. of byproducts other than R30 by recycling unreacted starting materials, typically at most 0.1% based on difluoromethane. Furthermore, the corrosion of the reactor scarcely occurs in the reaction of a highly corrosive antimony chloride fluoride with hydrogen fluoride, as long as the above conditions are kept.

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 1998 ACS

ACCESSION NUMBER: 1994:167282 CAPLUS

DOCUMENT NUMBER: 120:167282

TITLE: Method for removing hydrogen fluoride from halocarbon mixtures

INVENTOR(S): **Tsuda, Takehide**; Matsumoto, Takeo; Tanaka, Yoshinori; Komatsu, Satoshi; Koyama, Satoshi

PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 31 pp.

CODEN: PIXXD2

NUMBER	DATE
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PATENT INFORMATION: WO 9321140 A1 931028

DESIGNATED STATES: W: AU, BR, CA, JP, KR, RU, US  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

APPLICATION INFORMATION: WO 93-JP455  
PRIORITY APPLN. INFO: JP 92-92667  
JP 92-107656  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

9304  
9204  
920427

AB The method comprises distg. the title mixt. to remove binary azeotropic mixts. composed of HF and R-30, HF and R-31, and HF and R-32 or sepg. the mixt. into an upper liq. rich in HF and a lower liq. poor in HF and distg. the resp. phase in a similar manner.

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(FILE 'HOME' ENTERED AT 15:29:02 ON 06 FEB 1998)

FILE 'REGISTRY' ENTERED AT 15:29:44 ON 06 FEB 1998  
L1 1 S DIFLUOROMETHANE/CN

FILE 'CAPLUS' ENTERED AT 15:30:49 ON 06 FEB 1998  
L2 101 S ANELLO/IN  
L3 0 S L1 AND L2  
L4 29081 S ONO?/AU  
L5 7 S L1 AND L4  
E ANELLO/AU  
E TSUDA/AU  
L6 6 S TSUDA?/AU AND L1

=> file scisearch

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	32.47	36.78
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.28	-6.28

FILE 'SCISEARCH' ENTERED AT 15:38:42 ON 06 FEB 1998  
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FILE COVERS 1974 TO 30 Jan 1998 (19980130/ED)

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L7 61 ANELLO?/AU

=> s 17 and difluoromethane

122 DIFLUOROMETHANE  
1 DIFLUOROMETHANES  
123 DIFLUOROMETHANE  
(DIFLUOROMETHANE OR DIFLUOROMETHANES)  
L8 0 L7 AND DIFLUOROMETHANE

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	3.45	40.23
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-6.28